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The current state of zooplankton in remote cold lakes of the pechora delta (Russia)

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Abstract

© SGEM2018. Zooplankton plays a significant role in organic and mineral components accumulation and vertical organic matter fluxes in lake ecosystems of the Pechora delta. The composition and structure of zooplankton in four small remote tundra lakes of the Pechora delta (Russia) during the summer of 2017 were analyzed. All tundra lakes under study are characterized by low conductivity and nutrients content. A total of 82 zooplankton taxa were identified, of which the most frequently occurring ones were rotifers (Conochilus unicornis, Notholca acuminata, Kellicottia longispina, and Keratella cochlearis), cladocerans (Bosmina longirostris, Bosmina (Eubosmina) longispina, Chydorus sphaericus, Daphnia galeata), and copepods (Eudiaptomus graciloides, Heterocope appendiculata, and immature stages of copepods). Rotifers (40 species) and Cladocera (30 species) were dominant in zooplankton of the studied lakes; they were marked by the highest values of diversity and abundance. The biomass of zooplankton is formed mainly by cladocerans. The entire population is dominated by rotifers. From 8 and 49 species were found in the studied lakes (mean number =24.4±4.8). The species diversity was estimated using the Shannon-Wiener species diversity index (mean H=3.0±0.9). The quality and pollution of surface waters was assessed with the Pantle–Buck index modified by Sladecek. The obtained data on the studied lakes show that the index values vary from 1.2 to 1.6 (with an average of 1.4).

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Keywords

Arctic lakes, Pechora delta, Zooplankton

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